ELC/427/85

International
Marketing Information
Series

France

CMS/ELC/427/85, December 1985

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Electronic Components

France

U.S. DEPARTMENT OF COMMERCE
International Trade Administration

READEX

France's electronic components market is expected to maintain average annual growth of about 9 percent between 1984 and 1988, bringing 1988 sales close to $3 billion (see table 1 and figure 1). In spite of official encouragement, domestic suppliers are unlikely to keep up with expanding demand, forcing reliance on imports to continue and even to increase. High sales are predicted for active components, particularly discrete semiconductors (see table 2), an area favoring U.S. makers, whose technology and business practices are highly regarded.

France's industrial strategy calls for rapidly enhanced production of electronic components. Both past and present Governments envision a technologically competent society independent of foreign dominance in the supply of strategically important parts or equipment. Increased expenditures for capital improvements and research are not expected to pay off in significantly higher production until the 1990's.

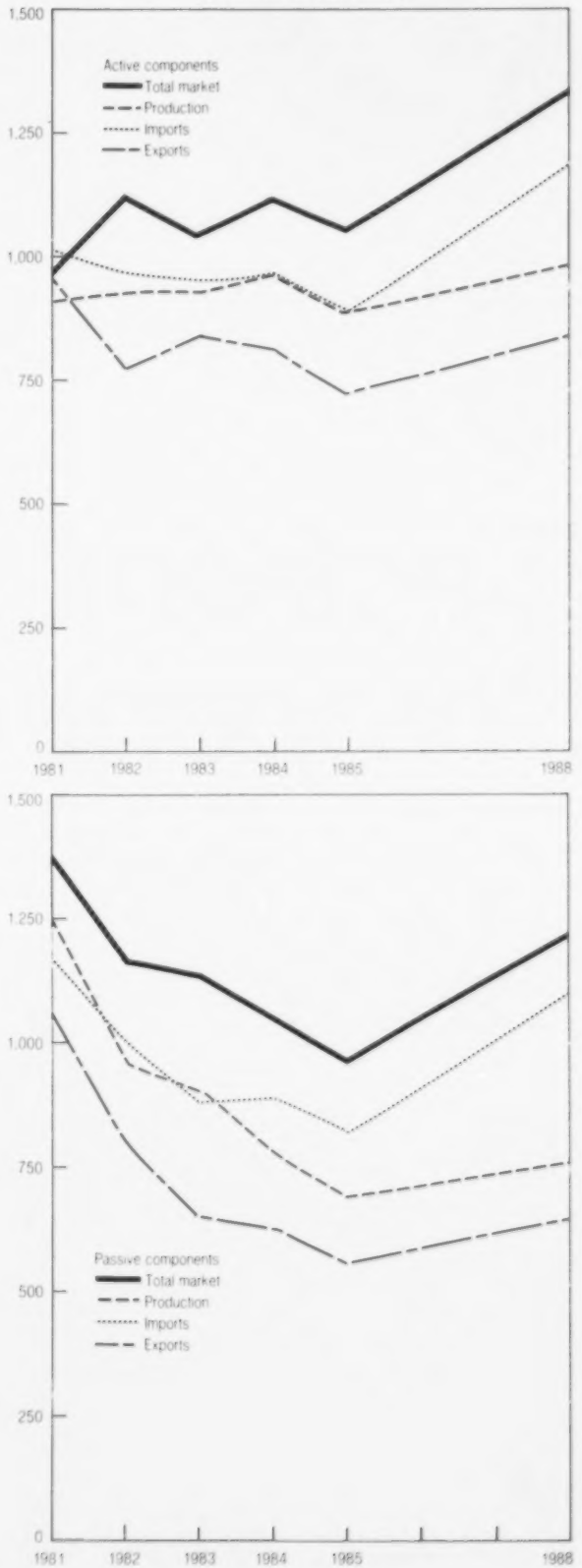
Multinational corporations represent an important factor in electronic components production, particularly for semiconductors. These firms are well accepted, acting as trainers for the industry, providing technological stimulus, and functioning as sounding boards against which their wholly French rivals test their own performance and products. American multinationals are by far the leaders in componentry, accounting for 20-24 percent of total domestic production. U.S. dominance is especially noticeable in the semiconductor industry where, in addition to the production of the U.S. subsidiaries, the major French firms, Thomson-CSF and Matra, have formed technology transfer and licensing agreements with National Semiconductor, Intel, Harris, and Motorola. Other multinationals include Germany's Siemens, Italy's SGS-Ates, and the Netherlands' Philips; so far, Japan and the United Kingdom are not represented.

End Users

Modernization of most end-user industries is synonymous with installation of advanced electronic controls, processing, and information-flow equipment. Following the nationalization of major companies in sectors regarded as key growth areas, the Government launched a restructuring plan for declining industries such as steel, shipbuilding, and coal. Electronic products can be vital to this upgrading, putting the electronics industries in a position of

Figure 1
France: The market for electronic components, 1981-88

(in millions of U.S. dollars)



Note: All values are given in U.S. dollars. Local currency is converted at the following exchange rates: US$1 = FFr 5.44 (1981); FFr6.57 (1982); FFr7.62 (1983); FFr8.31 (1984); and FFr9.90 (1985-88).

Source: "Profile Report on the Electronic Components Market in France," Tactical Marketing Limited, 73 New Bond Street, London W1Y 9DB, England, April 1985, prepared under contract to International Trade Administration, U.S. and Foreign Commercial Service (see Additional Information box).

Table 1.—France: Total and merchant market for electronic components, 1981-88

(in billions of U.S. dollars)

	1981	1982	1983	1984	1985	Projected 1988
Active components						
Production	.91	.93	.93	.97	.88	1.0
Imports	1.01	.97	.95	.96	.89	1.2
Exports (less)	.96	.77	.84	.81	.72	.8
Total market	.96	1.13	1.04	1.12	1.05	1.4
Merchant market (est.)	.56	.63	.59	.73	.70	.9
Passive components						
Production	1.25	.96	.90	.78	.69	.8
Imports	1.17	1.00	.88	.89	.82	1.1
Exports (less)	1.06	.80	.65	.63	.55	.6
Total market	1.36	1.16	1.13	1.04	.96	1.3
Merchant market (est.)	.79	.70	.70	.68	.64	.8
Total market						
Production	2.16	1.89	1.83	1.75	1.57	1.8
Imports	2.18	1.97	1.83	1.85	1.71	2.3
Exports (less)	2.02	1.57	1.49	1.44	1.27	1.4
Total market	2.32	2.29	2.17	2.16	2.01	2.7
Merchant market (est.)	1.35	1.37	1.29	1.40	1.34	1.7

Note: "Total market" means all sales of electronic components, including those between affiliated companies and those intended for reexport. "Merchant market" means the open market sales of components between unrelated companies and excludes captive or intracompany sales.

Source: "Profile Report on the Electronic Components Market in France," prepared under contract for the International Trade Administration, U.S. and Foreign Commercial Service (see Additional Information box).

recognized importance. Nine industries currently absorb 95 percent of electronic components turnover (see table 3 and figure 2).

Electronic capital equipment makers show production escalating at a 20-percent yearly rate from 1979 through 1983. Manufacturers of electronic goods, which together account for nearly 3 percent of the nation's gross domestic product, expect annual growth rates of 10-25 percent. Many are plowing back higher percentages of their profits into capital investment and R&D expenditures for expansion and modernization. The chief spenders in 1984 were the communications, computers, defense, and entertainment equipment sectors.

Communications equipment.—Communications equipment makers, which took nearly a third of 1984 components turnover, are in a period of rapid growth. As the French Government upgrades its telecommunications services in pursuit of undisputed EEC superiority, domestic manufacturers are perfecting their technology and expanding output to the developing countries of Africa and the Middle East. Sales are projected to keep rising at 9-16 percent annually.

The industry supplies 90 percent of domestic demand, covering the entire spectrum of telecommunications apparatus, in all technologies from electromechanical to digital, and for data as well as voice traffic. French firms are very strong in digital switching, data and text terminals, fiber optic transmission, and networking equipment. Less attention is paid to paging and public address systems, modems, and analog transmission equipment.

Although some 300 companies make communications equipment, the industry is dominated by 4 large conglomerates (see table 4). Alcatel-Thomson, part of the massive Cie Generale d'Electricite, was created as part of the restructuring of public sector manufacturers. The merged company, which became the world's fifth largest producer of telecommunications equipment, is setting aside an impressive 14 percent of its sales for R&D. The giant aerospace company Matra also has strong telecommunications expertise, especially after its acquisition of the Depaepe Group, market leaders in telephone sets. Other large companies include Jeumont-Schneider, CGCT, Europhone, IBM France, LTT, Picart Lebas, SAT, and TRT (a Philips subsidiary). Their broadly-based componentry needs include connectors, relays, PCB's, magnetics, resistors, capacitors, discrete semiconductors, and hybrid IC's.

Computers and business systems.—Over one-quarter of components sales are absorbed by the rapidly growing computer and business systems industry, a sector that projects 12-percent per annum sales growth for mainframes and up to 40-percent yearly increases in microcomputers. The industry's highest technology products include networking systems for local area networks and interactive terminals for cable system data communications networks. Factories make sophisticated EDP peripherals for storage, input/output, and data communications and are developing new expertise in microcomputers and electronic office hardware. Production weaknesses include cash registers, point-of-sale terminals, and

Table 2.—France: Sales of electronic components by selected subcategories, 1983 and 1988

(in millions of U.S. dollars)

	1983	Projected 1988
Discrete semiconductors		
Production	168	172
Imports	247	346
Exports (less)	168	185
Total	247	333
Merchant market (est.)	157	222
Optoelectronic devices		
Production	51	55
Imports	91	101
Exports (less)	42	50
Total	100	106
Merchant market (est.)	66	71
Bipolar IC's		
Production	78	81
Imports	187	188
Exports (less)	151	134
Total	114	135
Merchant market (est.)	76	91
MOS memory		
Production	96	96
Imports	91	111
Exports (less)	92	101
Total	95	106
Merchant market (est.)	62	71
MOS logic		
Production	89	96
Imports	59	33
Exports (less)	75	109
Total	73	120
Merchant market (est.)	49	80
Hybrid IC's		
Production	78	95
Imports	93	141
Exports (less)	67	76
Total	104	160
Merchant market (est.)	70	107
Electron tubes		
Production	368	391
Imports	183	172
Exports (less)	243	184
Total	308	379
Merchant market (est.)	205	253
Capacitors		
Production	117	99
Imports	114	130
Exports (less)	78	71
Total	153	158
Merchant market (est.)	102	102
Connectors		
Production	152	129
Imports	173	187
Exports (less)	110	97
Total	215	219
Merchant market (est.)	144	146
Filters, networks, and crystals		
Production	48	38
Imports	57	73
Exports (less)	32	45
Total	73	66
Merchant market (est.)	49	43
Magnetics		
Production	81	68
Imports	25	20
Exports (less)	52	47
Total	54	41
Merchant market (est.)	36	27
Microwave hardware		
Production	36	30
Imports	57	97
Exports (less)	26	51
Total	67	76
Merchant market (est.)	45	52
Printed circuit boards		
Production	158	129
Imports	143	151
Exports (less)	103	91
Total	198	189
Merchant market (est.)	133	126

Source: International Trade Administration research report.

dictating equipment; minicomputer production does not yet meet demand.

Major companies active in the sector include IBM, Serge Dassault, Matra, SFENA, Bull, and Thomson. They are heavy users of actives such as discrete semiconductors, diodes, transistors, IC's, microcircuits, and electron tubes and also need a wide variety of readout devices, resistors, capacitors, connectors, transformers, PCB's, relays, and switches.

Military and aerospace equipment.—The defense and aerospace industry enjoys healthy sales both at

Table 3.—Purchases of electronic components by end-user sector, 1983-88

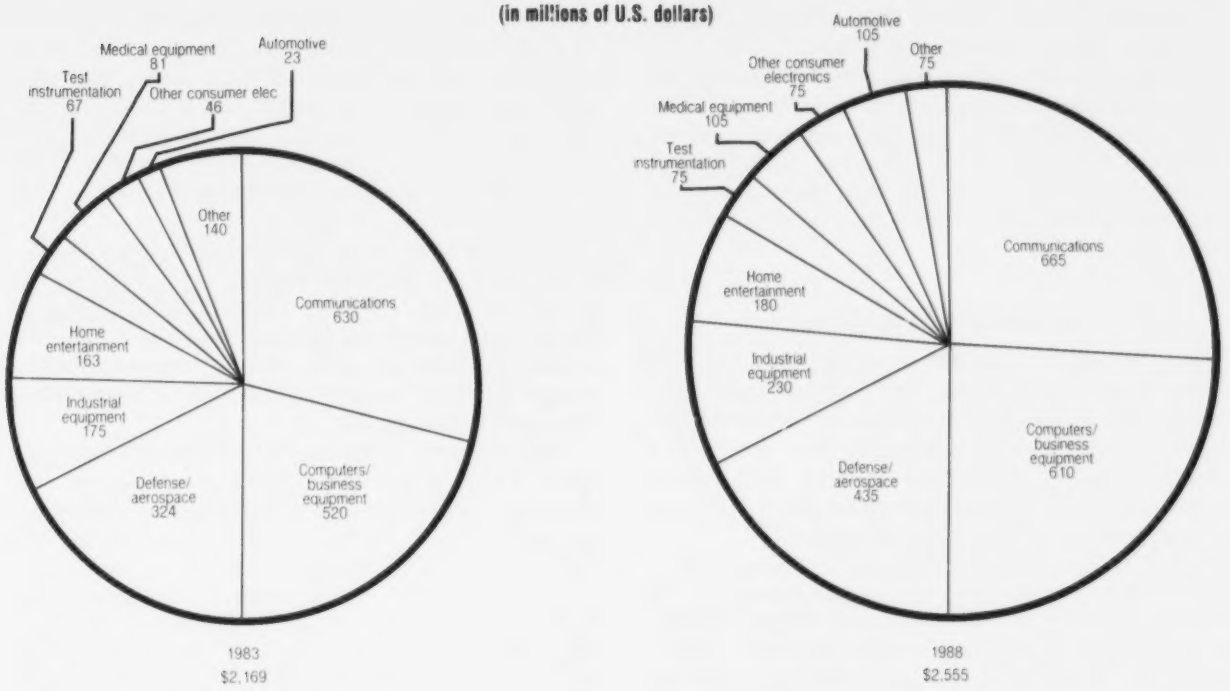
(in millions of U.S. dollars)

	1983	1984	Projected 1988
Active components			
Communications equipment	291	351	350
Computers/business equipment	260	308	320
Defense/aerospace	166	180	230
Industrial equipment	73	85	120
Home entertainment equipment	73	69	95
Other consumer electronics	23	27	40
Test instrumentation	33	29	40
Medical equipment	36	28	55
Automotive electronics	12	21	55
Other	72	17	40
Total	1,039	1,115	1,345
Passive components			
Communications equipment	339	348	315
Computers/business equipment	260	266	290
Defense/aerospace	158	157	205
Industrial equipment	102	69	110
Home entertainment equipment	90	75	85
Other consumer electronics	23	35	35
Test instrumentation	34	17	35
Medical equipment	45	18	50
Automotive electronics	11	20	50
Other	68	35	35
Total	1,130	1,040	1,210

Source: International Trade Administration research report

Figure 2
France: Purchases of electronic components by end-user sector, 1983 and 1988

(in millions of U.S. dollars)



home and abroad, helped along by the Government's policy of selling to all comers, regardless of political alignment. Export order books show every sign of sustained growth of up to 14 percent a year to 1990.

Major producers include Aerospatiale, Alcatel-Thomson, CGE, CIMSA, Crouzet, EAS, Elecma, Dassault, Intertechnique, LCT, LMT, Matra, SAT, SFENA, SFIM, Sintra, Socrat, Starec, Thomson, IBM, and TRT. They are strong in avoinics, flight navigation and marine navigation equipment, guided weaponry, and terrestrial communications devices, with the most advanced technology showing up in electronics for combat aircraft and weapons control, two areas in which these firms have concentrated their R&D efforts. With the electronics content in weapons systems growing yearly, regular shipments in all component categories are expected. Some weaknesses exist in ground-to-air devices and in submarine detection equipment.

Industrial control and processing equipment.—The industrial control and processing equipment sector has seen its share of components purchases decline steadily for the past 10 years. The tide must turn soon, however, if France is to fulfill its desire to become a European industrial leader. Trade experts see output doubling by 1988, climbing each year by as much as 19 percent. Passive componentry of all kinds is used extensively, with growing intake of PCB's, microcircuitry, hybrid IC's, and discrete semiconductors.

Leading makers include CIT-Alcatel, CGE, CGEE-Althom, CILAS, Crouzet, Schlumberger-Enertec, Fontaine Informatique, Intertechnique, Labinal, LCT, Matra, Merlin Gerin, Nardeux, SAT, Sercel, SFENA, Sintra, Socrat, Sodeteg, Thomson, Thomson-CSF, Telemecanique, and TRT. Such companies now concentrate on electromechanical-electronic hybrid controls and instrumentation, but they are changing over to purely electronic systems. Future output is expected to include telemetry, telecommand, and electronic control systems; electronic analysis equipment; test and measurement devices; and telecommunication instruments.

Industrial control and processing equipment technology levels tend to be mid-level, so demand is not spurred by obsolescence in the large firms. Prospects nevertheless are good for sales to smaller processing companies in industries such as steelmaking, textiles, food manufacture, glassmaking, fertilizer and rough chemicals, plastics, building materials, and minerals extraction.

Home entertainment products.—Output in the home entertainment products sector has been declining, dampened both by limited purchasing power at home and by price competition from Far Eastern imports. The

sector is still important for its contribution to exports, which are growing because of the French reputation for flair and elegant styling.

Thomson-Brandt, Matra, SNR, Schneider, Reela, Siemens, REA, Continental Edison, LMT, ITT-Oceanic, Grundig France, and Coral are among the major producers of home entertainment goods. Color television shows special strength, although sales are declining somewhat as saturation and Japanese competition take their toll. Technology levels are neither high nor original, a fact reflected in componentry intake.

Competitive Assessment

Imports took nearly 86 percent of the 1984 components market, with 400 foreign companies providing passives and 40 supplying active components. The domestic manufacturing base, strained by limited capital, production facilities, and human resources, is unlikely to expand more than 4.5 percent a year, increasing dependence on imports.

Many overseas purchases are captive sales made on the strength of intergroup and intercompany ties by companies such at ITT, Siemens France, Brown Boveri France, Plessey France, and SGS-Ates France. Generally, products are no longer strictly associated with a particular national source, except in the case of semiconductors, where buyers still regard the major American suppliers as pioneers and experimenters.

Third-country suppliers.—German manufacturers (see list of Leading Foreign Suppliers) excel in resistors, connectors, capacitors, and switches, taking a narrow lead in 1984 overseas purchases (see table 5). Japanese merchants are increasingly competitive in active component sales but are still largely captive to their own installations of computer and business hardware, supplying replacement componentry for them.

The import leaders are facing mounting competition in passives and the simpler actives from Italy, Belgium, the Netherlands, the United Kingdom, Scandinavia, and Spain, as well as from the low-cost economies of the Far East such as South Korea, Hong Kong, Malaysia, the Philippines, Singapore, and Taiwan. Areas in which the leaders remain strong include: switches, connectors, wiring, and subassemblies (United Kingdom); crystal products and precision microswitches (Switzerland); resistors, capacitors, relays, transformers, and PCB's (Italy and Spain); and telecommunications components and microwave items (Sweden). Asian suppliers offer acceptable quality and an attractive price and discount structure.

Enterprising suppliers in Asia, Italy, Switzerland, and Spain are seeking to win new business by extending their aftersales service to the utmost. Increasingly, large-volume purchases directly from a manufacturer are part of an ongoing contract covering design liaison, automatic replacement of faulty parts, and options for upgrade.

Approximately 8 percent of 1984 imports may have been reexported. Componentry moves across the frontiers of EEC member states between multinationals such as Siemens, Philips, Honeywell, IBM, and ITT, usually after some modification or value-added process. Reexports of unmodified components are minimal, but there is a growing trend by merchant houses toward reexporting passives and simple actives to destinations in North Africa, certain Comecon countries, and the Middle East. By 1990, reexports are projected to reach 11 percent of imports.

U.S. suppliers.—U.S. products are favored by buyers of high-technology components and comprised 24 percent of overseas purchases in 1984. American manufacturers are important suppliers of optoelectronics, discrete semiconductors, IC's, cathode ray tubes, connectors, terminals, PCB's, and subassemblies, products that are considered superior in technology, reliable, and well tested in the global marketplace.

With increased marketing efforts, U.S. sellers could deepen their market penetration to a projected 27 percent of imports by 1988. The areas of greatest potential include all kinds of active components, as well as certain passives, including some types of connectors; all filters, networks, and crystals; most

Table 4.—France: End-user sector economic indicators, 1983

	No. of firms	No. of firms accounting for 50% production	No. of firms accounting for 80% production	Production value (in millions of U.S. dollars)	Capital expenditures
Home entertainment products	102	22	64	705	25
Other consumer electronics	34	16	27	235	8
Automotive electronics	33	4	21	70	3
Test instrumentation	234	58	175	332	16
Communications equipment	301	4	195	4,144	182
Industrial control and processing equipment	908	22	466	748	29
Electronic medical equipment	316	24	159	165	7
Computers and business systems	135	9	83	3,255	189
Military and aerospace electronic equipment	169	28	123	1,713	103

Sources: INSEE (Institut National de la Statistique et des Etudes Economiques) and International Trade Administration research report.

Table 5.—France: Total and merchant imports of selected electronic components by country, 1983-88

(in millions of U.S. dollars)

	1983	1984	Projected 1988
Discrete semiconductors			
United States	101	109	165
Japan	51	55	
Far East	23	27	
United Kingdom	23	24	
Italy	20	22	
Others	29	22	
Total	247	259	345
Merchant imports (est.)	144	168	245
Optoelectronic devices			
United States	27	27	30
Japan	20	17	
United Kingdom	8	11	
Germany	8	11	
Switzerland	6	5	
Others	22	10	
Total	91	81	100
Merchant imports (est.)	59	52	60
Bipolar IC's			
United States	37	39	40
Germany	32	38	
Japan	25	23	
Italy	19	8	
United Kingdom	4	6	
Others	70	70	
Total	187	184	188
Merchant imports (est.)	123	123	125
MOS memory			
United States	20	21	30
Japan	11	11	
Far East	10	11	
Belgium	8	6	
United Kingdom	5	6	
Others	37	35	
Total	91	90	111
Merchant imports (est.)	60	59	74
MOS logic			
United States	19	20	28
Far East	9	11	
Japan	9	9	
Germany	7	11	
United Kingdom	4	5	
Others	11	9	
Total	59	65	133
Merchant imports (est.)	39	43	88
Hybrid IC's			
United States	28	29	32
Far East	24	19	
Japan	9	9	
Netherlands	5	5	
United Kingdom	4	4	
Others	23	35	
Total	93	101	141
Merchant imports (est.)	62	66	95
Electron tubes			
United States	28	26	28
Germany	55	59	
Japan	27	33	
Far East	26	24	
United Kingdom	22	23	
Others	25	15	
Total	183	180	172
Merchant imports (est.)	125	119	112
Capacitors			
United States	19	19	20
Germany	33	33	
Far East	11	13	
Italy	12	13	
United Kingdom	12	12	
Others	27	25	
Total	114	115	130
Merchant imports (est.)	75	76	90
Connectors			
United States	22	23	40
Germany	42	50	
Far East	21	18	
United Kingdom	6	5	
Switzerland	6	7	
Others	76	77	
Total	173	180	187
Merchant imports (est.)	112	117	125
Filters, networks and crytals			
United States	11	12	30
Germany	23	31	
Switzerland	5	6	
United Kingdom	4	4	
Netherlands	4	6	
Others	10	1	
Total	57	60	73
Merchant imports (est.)	38	39	47
Magnetics			
United States	6	6	6
Germany	10	11	
United Kingdom	5	5	
Italy	2	2	
Spain	1	3	
Others	1	1	
Total	25	28	20
Merchant imports (est.)	16	19	13
Microwave hardware			
United States	11	12	30
Germany	23	24	
Netherlands	5	7	
Austria	5	5	
United Kingdom	3	2	
Others	10	20	
Total	57	70	97
Merchant imports (est.)	38	47	65
Printed circuits			
United States	36	42	51
Germany	65	70	
Italy	11	7	
Netherlands	7	7	
Belgium	7	5	
Others	17	19	
Total	143	150	151
Merchant imports (est.)	100	100	101
Total imports			
United States	447	447	619
Germany	433	458	
Japan	177	190	
United Kingdom	128	133	
Italy	100	98	
Others	540	520	
Total	1,825	1,846	2,294
Merchant imports (est.)	1,170	1,245	1,587

Source: International Trade Administration research report.

microwave hardware; some PCB's; and all kinds of transducers (see Best Sales Prospects).

Local suppliers.—The French electronic components manufacturing industry is trying hard to reach maturity and stability after years of uneven performance and the effects of recession and low capital investment. By 1983, production of both active and passive componentry had increased significantly over previous years, and notable exports of $1.5 billion helped the industry to recover from recession. With spare plant capacity now exhausted, future production growth is predicted to be limited to about 4 percent annually.

The passives end of the industry is broadly based and has vast experience in manufacturing volume items either for use in-house or for the merchant market. It covers the entire spectrum, although its major strengths are in capacitors, resistors, connectors, PCB's ferrites, and transformers (see list of Leading Domestic Suppliers).

Active componentry production, the main hope of the export industry, is projected to climb faster than passives production but still not enough to keep pace with both rising domestic demand and growing export markets. Both the quantity and the sophistication of active components are heavily dependent on foreign-owned manufacturing firms, particularly American multinationals. Local subsidiaries of foreign component makers test their products both locally and in other similar markets, depending on the type of demand. Approximately 33-35 percent of French-made componentry is made for in-house use, with the remainder destined for merchant channels.

Business Practices

The large manufacturers such as Thomson-CSF, Videocolor, Texas Instruments France, Intermetall, Hyperelec, and RTC distribute components to users through their own sales organizations, usually headquartered in Paris, and make supplementary sales through wholesale merchants. Small suppliers, especially passive components firms, usually sell through wholesale distributors. American suppliers new to the market may also choose to distribute through selected French manufacturers of component production and test equipment, many of which already carry supplementary lines of equipment and/or components. (Extensive lists of distributors and manufacturers appear in the research report, along with information on trade shows, associations, and publications.)

End users are interested primarily in the suitability of the components for the job at hand, their reliability, and their timely delivery. When all other factors are equal, as in high-volume, well-proven items, price assumes a higher priority.

Because of the persisting dominance of American electronic hardware in the market, U.S. standards are often used and almost always readily accepted. Local content is not an urgent issue. The import licensing procedure is a more effective constraint to overseas buying, although in practice licenses are freely granted to U.S. suppliers. All active components, except electron tubes, require a license; passives do not. Testing of U.S.-made components is not customary. Duties paid by non-EEC suppliers generally range from zero to 9.4 percent, with tariffs of 15 percent for cathode-ray tubes for television sets and 17 percent for some diodes, transistors, and microcircuits.

Additional Information

The project officer responsible for Country Market Surveys on electronic components is:

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Leading Domestic Suppliers

Company	Products
Passive components	
Aimants Ugimag	Ferrites
A.O.I.P.	Printed circuits
Boussois—DAN	Switches, boards
Ceraver	Fixed capacitors, subassemblies
Deutsch	Connectors, piezoelectrics, microwave devices
Entrelec	Connectors, boards
Eurofarad	Fixed capacitors, resistors, potentiometers
Fribourg Condensateurs	Capacitors
ITT Components	Connectors, boards, switches, printed circuits
LCC-CICE	Capacitors, resistors, connectors, circuit breakers, ferrites, subassemblies
Mars-Alcatel	Connectors
MCB France	Coils, transformers, resistors
Metalimphy	Transformers
Orega EM	Coils, boards, subassemblies, switches
Oreor Electronique	Transformers, boards, switches
Portenseigne	Electroacoustics, switches, audio components
Radiall	Connectors, piezoelectrics
RTC-Compelec	Capacitors, resistors, coils, hybrid microcircuits, PCB's, microwave devices, ferrites, subassemblies
SAT	Transformers, microcircuits, PCB's, subassemblies
Sfernice	Capacitors, resistors, hybrid microcircuits
Siemens	Transformers, ferrites
SIC-Safco	Capacitors
Socapex	PCB's connectors
Souriau	Connectors
Thomas-CSF	Capacitors, resistors, hybrid microcircuits, connectors, PCB's, ferrites
UMD Amphenol	Connectors
Active components	
Intermetall	Optoelectronic devices, semiconductors, monolithic IC's
MHS-Matra Harris	Monolithic IC's
Motorola	Optoelectronic devices, semiconductors, monolithic IC's
RTC-Compelec	Electron tubes, optoelectric devices, semiconductors, monolithic IC's
SGS-Ates	Optoelectronic devices, semiconductors, monolithic IC's
Thomson-CSF	Electron tubes, optoelectronic devices, monolithic IC's
Texas Instruments	Optoelectronic devices, semiconductors, monolithic IC's
Videocolor	Electronic tubes
Westinghouse CDSW	Semiconductors

Source: International Trade Administration research report.

Leading Foreign Suppliers

Company	Country	Company	Country
AEG-Telefunken	Germany	BICC-Vero	UK
AMF-Potter	USA	Baer	Germany
ANT	Germany	Baumer	Switzerland
ASEA-Hafo	Sweden	Bayerische Metallwerke	Germany
AVX	UK	Belden Cable	USA
Ablestik	USA	Belling Lee	UK
Alba	Germany	Bepi Circuits	UK
Allen-Bradley	UK	Berger Lahr	Germany
Allied Corporation	USA	Bernstein	Germany
Alpha Repeater	UK	Binder	Germany
Alpha Wire	USA	Block	Germany
American Research	USA	Bogen	Germany
American Technical Ceramics	USA	Bopla	Germany
Ametek	USA	Borsch	Germany
Amex Metals	UK	Bourns	USA
Amper	Spain	Burr-Brown	USA
Analog Devices	USA	C&K Switches	UK
Analogic	USA	CEEP	Spain
Ansley Electronics	USA	Caddock	USA
Arcotronics	Italy	California Devices	USA
Aries	UK	Cambion	UK
Arrow Hart	UK	Carling Switch	USA
Assmann	Germany	Cathodeon Crystals	UK
Astralux	UK	Centre Engineering	USA
Atlantis Electronics	USA	Cermetek	USA
Audemars	Switzerland	Cherry Mikroschalter	Germany
Austron	USA	Chomerios Citec	UK
Autophon	Switzerland	Clairex	USA
BBC	Switzerland	Comlinear Corporation	USA

Leading Foreign Suppliers—Continued

Company	Country	Company	Country
Conec	Germany	Linear Technology	USA
Crystaloid	USA	Linemaster Switch	USA
Daniels	USA	MPS	USA
Data Linear	USA	Marconi	UK
Datricon	USA	Massa	USA
Daut u. Rietz	Germany	Matsushita	Japan
Deutsche Vitrohm	Germany	Miatran	USA
Ericsson	Sweden	Mitsubishi	Japan
Fujitsu	Japan	Monolithic Memories	USA
Futaba Corporation	Japan	Murr	Germany
GTE	USA	NEC	Japan
Gavazzi	Italy	Nippon Chemi Con	Japan
General Electric Semiconductor	USA	Oki	Japan
Global Specialities	USA	PDC	USA
Hengstler	Germany	Quarzkeramik	Germany
Hermette	USA	Rockwell	USA
Hirschmann	Germany	Roderstein	Germany
Hitachi	Japan	STC Components	UK
IMC	USA	Sankan	Japan
Intel	USA	Seci Sud	Italy
Intercontinental Electronica	Spain	Semicon	USA
Intersil	USA	Sharp	Japan
Keystone	USA	Sprague Goodman	USA
Kyocera	Japan	Takamisawa	Japan
LXD	USA	UT-Mostek	USA

Best Sales Prospects

Product	Prospective purchasers	Product	Prospective purchasers
Discrete semiconductors	CIT-Alcatel		Merlin Gerin
	CGE		Omera
	CIMSA		Matra
	Crouzet		TRT
	EAS		Telemecanique
	Dassault		
	Enertec	MOS memory	Bull
	IBM		TRT
	Intertechnique		IBM
	LCT		Sintra
	Matra		Thomson
	SFENA		SFENA
	Aerospatiale		Matra
			LMT
Optoelectronic devices	Radiotel		Labinal
	SAT		
	Secre	MOS logic	Bull
	Socrat		Sintra
	Aerospatiale		Thomson
	Thomson		Matra
	CGE		SFENA
	Dassault		CIT-Alcatel
	Matra		LCT
	Crouzet		CIMSA
	IBM		
		Hybrid IC's	TRT
Bipolar IC's	Bull		Starec
	IBM		Sodelteg
	Thomson		SFIM
	CGE		SAT
	Elecma		Merlin Gerin
	CSEE		Matra
	LCT		LTT
	SAT		

Best Sales Prospects—continued

Product	Prospective purchasers
Electron tubes	ITT-Oceanic
	Bull
	TRT
	Continental Edison
	LMT
	Grunding France
	Thomson-Brandt
	CIT-Alcatel
	CGEE - Alsthom
	CIMSA
Connectors	IBM
	TRT
	Bull
	Matra
	Omera
	Merlin-Gerin
	SFENA
	SFIM
	SAT
Filters, networks, and crystals	Thomson-Brandt
	Aerospatiale
	Matra
	CIT-Alcatel
	Thomson-Telecom
	CIMSA
	Crouzet
	EAS
	Dassault
	Intertechnique
	LCT
Microwave hardware	CIT-Alcatel
	SAT
	SFENA
	CIMSA
	CGEE-Alsthom
	EAS
	Dassault
	Crouzet
	LCT
PCB's	Aerospatiale
	Matra
	Dassault
	TRT
	Grunding France
	CGE
	CIMSA
	Crouzet
Transducers	CGE
	CGEE-Alsthom
	Crouzet
	Labinal
	LCT
	Matra
	Nardeux
	SFENA
	Sercel
	Sintra
	Sodeteg
	Thomson
	Saphymo-Stel
	TRT

Source: International Trade Administration research report

France: Basic Economic Indicators

Population:	55.061 million (1985)
GDP:	$515 billion (1983)
Contributions to GDP:	Services 52.2% (1983)
	Industry 35.3%
	Agriculture 5.09%
Per capita income:	$9,001 (1984)
Inflation rate:	10.5% (est.) (1984)
Exports f.o.b.:	$205.4 billion (1984)
U.S. share:	8.1%
Imports c.i.f.:	$210.4 billion (1984)
U.S. share:	7.0%
Major trading partners:	United States, EC, Japan, USSR, Comecon
Exchange rate:	8.74 francs = US$1 (1984)
Fiscal year	Calendar year
Current account balance:	−$0.1 billion (1984)
International reserves:	$42.7 billion (1984)
Labor force:	23.6 million (1984)
Unemployment:	10.5% (1984)
Average hourly wage:	$7.42 (1984)

Useful Addresses

Embassies

American Embassy
Commercial Section
2 Avenue Gabriel
75382 Paris Cedex 08
Paris
tf: 296 1202
tx: 650-221

Embassy of France
4101 Reservoir Road, N.W.
Washington, DC 20007
tf: 944-6000

American Chamber of Commerce

21 avenue George V
75008 Paris
tf: 724-80-26

Electronics Trade Association(s)

Syndicat des Industries de Composants Electroniques Passifs
11 rue Hamelin
75016 Paris
tf: 505 14 27
tx: 611045

Syndicat des Industries de Tubes Electroniques et Semiconducteurs
11 rue Hamelin
75016 Paris
tf: 505 14 27
tx: 611045

Technical standards

Centre d'Information sur les Normes et Reglements techniques
(CINORTECH)
Association francaise de normalisation (AFNOR)
Tour Europe
CEDEX 7 92080 Paris la Defense
tf: 778 13 26
tg: afnor courbevoie
tx: 611974 afnor f
tfx: 774 84 90

Available reports on Electronic Components Markets

These reports are currently available from Export Promotion Services, at the address listed in the Additional Information box:

International Market Research (full research reports)

IMR/ELC/433/84	Austria (Jun 84)	$100	IMR/ELC/201/84	Mexico (Jan 84)	120
IMR/ELC/427/85	France (Apr 85)	120	IMR/ELC/421/85	Netherlands (Jun 85)	$100
IMR/ELC/428/84	Germany (May 84)	120	IMR/ELC/403/85	Norway (Apr 85)	80
IMR/ELC/533/85	India (Dec 85)	100	IMR/ELC/565/84	Philippines (Jul 84)	120
IMR/ELC/508/84	Israel (Apr 84)	100	IMR/ELC/559/85	Singapore (Jun 85)	50
IMR/ELC/475/84	Italy (Mar 84)	100	IMR/ELC/441/84	Switzerland (Feb 84)	120
IMR/ELC/588/85	Japan (Feb 85)	120	IMR/ELC/583/84	Taiwan (Feb 84)	100
IMR/ELC/580/85	Korea (Mar 85)	80	IMR/ELC/417/85	United Kingdom (Jan 85)	120

Country Market Surveys (published reports — $10 each)

CMS/ELC/433/85	Austria (Apr 85)	CMS/ELC/201/85	Mexico (May 85)
CMS/ELC/423/82	Belgium (Apr 82)	CMS/ELC/421/83	Netherlands (Jan 83)
CMS/ELC/427/85	France (Nov 85)	CMS/ELC/565/85	Philippines (May 85)
CMS/ELC/428/85	Germany (Apr 85)	CMS/ELC/559/83	Singapore (Jul 83)
CMS/ELC/508/85	Israel (May 85)	CMS/ELC/401/82	Sweden (Aug 82)
CMS/ELC/475/85	Italy (May 85)	CMS/ELC/441/85	Switzerland (May 85)
CMS/ELC/588/85	Japan (Dec 85)	CMS/ELC/583/85	Taiwan (May 85)
CMS/ELC/580/85	Korea (Dec 85)	CMS/ELC/412/85	United Kingdom (Aug 85)

International Marketing Information (U.S. embassy reports)

IMI/ELC/570/84	China (Mar 84)	$15	IMI/XXX/XX1/85	Standard Organizations Worldwide (Feb 85)	$20